

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/047466 A2

(51) International Patent Classification⁷: C12N

(21) International Application Number: PCT/US2004/036893

(22) International Filing Date: 4 November 2004 (04.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/517,270 4 November 2003 (04.11.2003) US

(71) Applicant (for all designated States except US): CASE WESTERN RESERVE UNIVERSITY [US/US]; 10900 Euclid Avenue, Cleveland, OH 44106 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WELTER, Jean, F. [US/US]; 17933 Sherrington Road, Shaker Heights,

OH 44122 (US). SOLCHAGA, Luis, A. [ES/US]; 2260 Barrington Road, University Heights, OH 44188 (US). BERILLA, Jim, A. [US/US]; 535 Ransome Road, Highland Heights, OH 44143 (US). PENICK, Kitsle [US/US]; 798 Tote Road, Austinburg, OH 44010 (US).

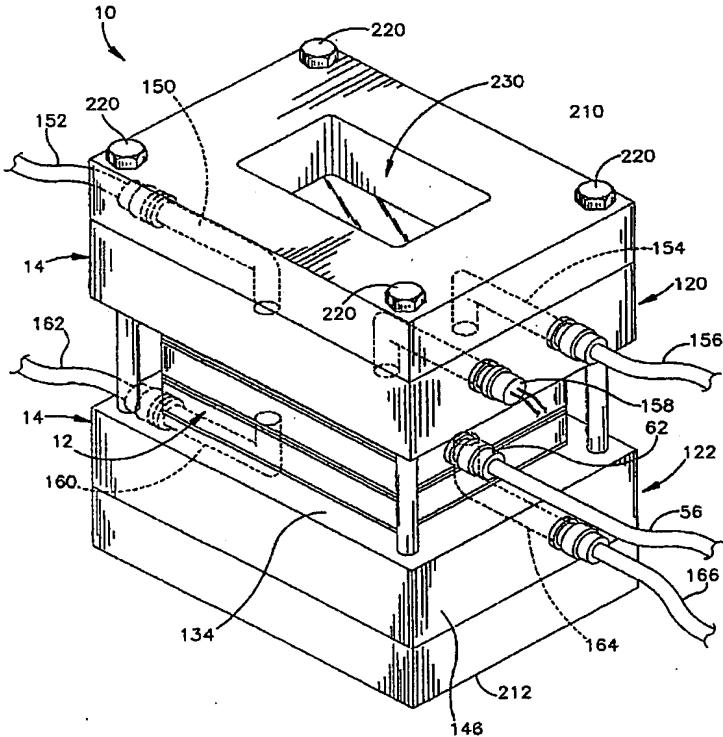
(74) Agent: SUTKUS, Richard, A.; Tarolli, Sundheim, Covell & Tummino L.L.P., 526 Superior Avenue, Suite 1111, Cleveland, OH 44114 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR TISSUE ENGINEERING

WO 2005/047466 A2



(57) Abstract: A bioreactor system includes a housing and a hydrostatic loading module. The housing includes a chamber with an inlet port and an outlet port. The inlet and outlet ports allowing the chamber to be continuously perfused with a culture medium while chamber is hydrostatically loaded.



(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only